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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/647,599 | 08/25/2003 | Nakao Tominaga | 00682P0069US | 2413 |

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WOOD, PHILLIPS, KATZ, CLARK & MORTIMER
500 W. MADISON STREET
SUITE 3800
CHICAGO, IL 60661

EXAMINER

MARCHESCHI, MICHAEL A

ART UNIT PAPER NUMBER

1755

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|----------------------------------|---------------------------------|--|
| Office Action Summary | Application No. 10/647,599 | Applicant(s) TOMINAGA ET AL. | |
| | Examiner Michael A Marcheschi | Art Unit 1755 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Reference characters "A", "B" and "C" as shown in figure 11 are not defined in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The disclosure is objected to because of the following informalities:

The specification is objected to because it does not contain the continuing data as required before the first line of the specification. Appropriate correction is required.

Claim 1-18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-18 are indefinite as to the phrase "organic high polymer matrix" because the term "high" in this phrase is a relative term which renders the claim indefinite. The term "high"

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is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. What is meant by this? How much does “high” signify? Although claims 6 and 13 define that “at least one ingredient of the organic high polymer matrix is rubber, this limitation is only defining one ingredient of the material and does not positively define what is meant by the above phrase.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being unpatentable over either (1) Howard, (2) Fukuda, (3) Holden et al., (4) Johnson et al. (5) Tomlinson et al. or (6) Sexton.

Howard teaches in the entire document, specifically column 5, line 30-column 6, line 25 and the claims, an abrasive solid that comprises two distinct sections of abrasive/resin matrix material. The sections have different sized or types of abrasive particles therein.

Fukuda teaches in the entire document, specifically the claims, an abrasive solid that comprises two distinct sections of abrasive/resin matrix material. The sections have different sized abrasive particles therein. The reference suggests that the abrasive grains in each section do not have to be the same (implied by the possible types of abrasive particles that can be used).

Holden et al. teach in the entire document, specifically column 2, lines 45-48, column 4, lines 10-40 and the claims, an abrasive solid that comprises two distinct sections of abrasive/resin matrix material. The sections have different abrasive particles therein. The reference suggests that the abrasive grains in each section do not have the same size (implied by the size range defined).

Johnson et al. teach in column 6, lines 25-40 and column 9, line 39-column 12, line 55, an abrasive solid that comprises two distinct sections of abrasive/resin matrix material. The sections have different sized or types of abrasive particles therein.

Tomlinson et al. teach in the entire document, an abrasive solid that comprises two distinct sections of abrasive/resin matrix material. The amount of abrasive is defined in vol. percent and when converted to weight percent, it encompasses the claimed amount.

Sexton teach in the entire document, an abrasive solid that comprises two distinct sections of abrasive/resin matrix material.

The claimed invention is anticipated by the references because all of said references teach abrasive solids that comprise two distinct sections of abrasive/resin matrix material, wherein the

sections have different sized and/or types of abrasive particles therein. Notwithstanding the characteristics (i.e. tensile strength, tear strength, hardness and abrasion loss) of the abrasive solid, the claimed abrasive solid is composed of two distinct sections of abrasive/resin matrix material, each of said sections having different sized or types of abrasive particles therein. Since the references all teach this, they anticipate the claimed abrasive solid. With respect to the characteristics (i.e. tensile strength, tear strength, hardness and abrasion loss) of the abrasive solid, these characteristics are expected and therefore inherent in the abrasive solids of the references because the abrasive solids appear to be the same (i.e. mixture of resin and abrasive in the sections) and the same composition is expected to yield the same characteristics in the absence of any evidence showing the contrary (i.e. evidence showing that the abrasive solids of the references do not have these properties). In the alternative, no patentable distinction is seen to exist between the references and the claimed invention in the absence of any evidence showing that the characteristics are not expected in the references. In addition, although the references do not literally define these characteristics, this does not preclude the solids of the references from having these characteristics. It is therefore the examiners position that since the references fail to mention any specific characteristics (criticality), this (the absence of any such limitation) constitutes a broad teaching of these characteristics, as long as the final abrasive solid is obtained. In view of this, it can be reasonably interpreted that the claimed characteristics are encompassed by the broad teachings according to these references in the absence of any evidence showing the contrary (criticality).

Assuming *arguendo* about the different sections, it is the examiners position that since the references teach various particle sizes for the abrasive, this implies that the abrasive particle sizes can vary in the article, thus reading on sections having different sized abrasive particles.

In order to overcome this rejection, applicants must either (1) show that the references do not have the claimed properties or (2) show that the claimed characteristics are critical.

Claims 1-4, 6-8 and 16-17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being unpatentable over either (1) Kalinowski et al., (2) Thimmappaiah et al., (3) Lovejoy, (4) Hammer et al. or (5) Elbel et al.

Kalinowski et al. teach in the claims, an abrasive solid that comprises a mixture of a resin matrix and an abrasive.

Thimmappaiah et al. teach in the claims, an abrasive solid that comprises a mixture of a resin matrix and an abrasive.

Lovejoy teaches in the entire document, an abrasive solid that comprises a mixture of a resin matrix and an abrasive.

Hammer et al. teach in the entire document, an abrasive solid that comprises a mixture of a resin matrix (rubber) and an abrasive.

Elbel et al. teaches in the entire document, an abrasive solid that comprises a mixture of a resin matrix (rubber) and an abrasive.

The claimed invention is anticipated by the references because all of said references teach abrasive solids that comprise a mixture of a resin matrix (rubber) and an abrasive.

Notwithstanding the characteristics (i.e. tensile strength, tear strength, hardness and abrasion

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loss) of the abrasive solid, the claimed abrasive solid is composed of a mixture of a resin matrix (rubber) and an abrasive. Since the references all teach this, they anticipate the claimed abrasive solid. With respect to the characteristics (i.e. tensile strength, tear strength, hardness and abrasion loss) of the abrasive solid, these characteristics are expected and therefore inherent in the abrasive solids of the references because the abrasive solids appear to be the same (i.e. mixture of resin and abrasive) and the same composition is expected to yield the same characteristics in the absence of any evidence showing the contrary (i.e. evidence showing that the abrasive solids of the references do not have these properties). In the alternative, no patentable distinction is seen to exist between the references and the claimed invention in the absence of any evidence showing that the characteristics are not expected in the references. In addition, although the references do not literally define these characteristics, this does not preclude the solids of the references from having these characteristics. It is therefore the examiners position that since the references fail to mention any specific characteristics (criticality), this (the absence of any such limitation) constitutes a broad teaching of these characteristics, as long as the final abrasive solid is obtained. In view of this, it can be reasonably interpreted that the claimed characteristics are encompassed by the broad teachings according to these references in the absence of any evidence showing the contrary (criticality).

In order to overcome this rejection, applicants must either (1) show that the references do not have the claimed properties or (2) show that the claimed characteristics are critical.

Claims 5, 9-15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over either (1) Kalinowski et al., (2) Thimmappaiah et al., (3) Lovejoy, (4) Hammer et al. or (5) Elbel et al.

With respect to the different sections, it is the examiners position that since the references teach various particle sizes for the abrasive, this implies that the abrasive particle sizes can vary in the article, thus reading on sections having different sized abrasive particles. With respect to the other limitations, the examiners remarks in the previous rejection address all of these limitations and are incorporated herein by reference.

In order to overcome this rejection, applicants must either (1) show that the references do not have the claimed properties or (2) show that the claimed characteristics are critical.

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

"A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)". In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co.*

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v. Biocraft Lab. Inc. 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976)".

Applicants use process limitations to define the product and "product-by-process" claims do not patentably distinguish the product even though made by a different process. *In re Thorpe* 227 USPQ 964.

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael A Marcheschi
Primary Examiner
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9/04
MM